

Running head: Outpatient Billing

**Determination of Tripler Army Medical Center Outpatient Service and Ambulatory
Procedure Charges to the Veterans Administration for Fiscal Year 2000**

A Graduate Management Project
Submitted to:

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ABSTRACT

The objective of this study was to determine Tripler Army Medical Center outpatient service and ambulatory procedure visit (APV) charges to the Veterans Administration for fiscal year 2000. First, relevant Medical Expense and Personnel System (MEPRS) cost was defined and a relevant MEPRS rate was calculated for each outpatient service cost center and APV category. Second, fiscal year 1999 utilization and associated cost of VA utilization of TAMC services was calculated. Third, relevant MEPRS cost was selected as a basis for billing for most fiscal year 2000 charges. Finally, a sensitivity analysis was developed comparing relevant MEPRS cost to increasingly steep discounts of the federally published Interagency Rate Reimbursement Schedule. The sensitivity analysis revealed a \$1,841 overall decrease in charges to the VA based on fiscal year 1999 billed utilization and proposed fiscal year 2000 rates.

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Introduction

The health care arena is one fraught with rapid change. The military health care system (MHS) is no different. A shift from inpatient services to ambulatory services not requiring an overnight hospitalization is rapidly becoming the predominant mode of health care delivery in the United States. Over half of the surgeries performed in the U.S. are now ambulatory. Likewise, since the 1980s, average hospital outpatient revenue has risen from 13% in 1980 to 28% in 1994, with a projected rise of 50% by 2000 (Sultz & Young, 1997). In keeping with the national trend, Tripler Army Medical Center (TAMC) has shifted workload from the inpatient to the outpatient arena as is evidenced by the creation of a Skilled Nursing Care Center (SNCC). The SNCC provides outpatient medical treatment previously performed as inpatient treatment. Similarly, a Same Day Surgery and an outpatient Chemotherapy Treatment Center was established.

In recent years, the military health system has transitioned from one with an isolationistic posture to one characterized by increased collaboration with other governmental and civilian agencies. One example of this shift is the increase in strategic alliances or partnering agreements among Department of Defense (DoD) and Department of Veterans Affairs (VA) health care facilities. Strategic alliances are necessary for long-term health and survival of governmental health care systems. Heightened operational budget scrutiny by congress of government funded health care systems resulted in mandates requiring collaboration between the VA and DoD (PL 97-174, 1982).

One of the cornerstones of financial stability for any health care organization is the ability

to accurately determine the cost associated with providing specific services. Additionally, it is essential to appropriately bill for services and to account for all episodes of care. Charges must be set to cover the full cost associated with treatment provided. All of the components listed are necessary for long-term financial viability, as the ability to continue to provide quality care to the largest number of beneficiaries becomes more reliant upon accurate rate setting and timely collections for services rendered.

Conditions Which Prompted the Study

Tripler Army Medical Center is in the midst of an initiative to build a closer relationship with the Spark M. Matsunaga Veterans Administration Medical and Regional Office Center (VAMROC) in Hawaii (note: VAMROC is a medical center in name only, as it has no organic inpatient facility). A new Veterans Administration (VA) Ambulatory Care Center (ACC) co-located with TAMC is nearing completion. Additionally, the VA administrative offices relocated in September 1999 from the Federal Building in downtown Honolulu to office space within TAMC proper. Closer geographical ties between the military hospital and VAMROC spurred an initiative to increase the number of resource sharing agreements between the two organizations. Heightened collaboration to maximize economies of scale is at the heart of the effort.

Billing VAMROC for services has been a contentious issue over the past several years. Recent history reveals that commencing in March of 1995, TAMC billed VAMROC by clinic visit at 65% of the Interagency Rate (IR), regardless of services provided during the visit. The IR is derived from MEPRS data compiled from Department of Defense-wide (DoD) average cost to provide care (Hazzard, 1999). A verbal agreement entered into at that time stipulated a 5% decrease in the discount applied from the IR being applied yearly until the cost of providing

services was reached; then set at 85% of the IR. The step-wise increase did not occur. In response to VA concerns that reimbursement rates were too high at 65% of the IR, the rate reimbursement methodology was changed to an adjusted Medical Expense and Performance Reporting System (MEPRS) cost. The methodology used to develop the adjusted MEPRS rates is not known, as all members of the team that developed the rates are no longer employed at TAMC and written documentation detailing how the adjusted rates were developed is non-existent. A retrospective review of the adjusted MEPRS rates reveals no definitive discount pattern, such as a discount percentage applied to all full MEPRS cost figures. Interestingly, all other non-DoD federal agencies have always paid the full interagency rate. Examples of these agencies include the Department of Transportation (Coast Guard), Department of State, National Oceanic and Atmospheric Administration, and others. However, due to the DoD/VA sharing legislation the VA is the only federal agency authorized to negotiate its fees.

VAMROC experienced financial difficulties in FY 99 in part due to an increase in veteran administration beneficiary (VAB) utilization of TAMC services. The cause of the increase is thought to be twofold. First, in some work centers actual utilization increased; Second, TAMC became much better at identifying and tracking utilization and costing data, leading to a better accounting of services provided to the VA. This renewed emphasis on accurate workload accounting, resulting in more accurate billing, produced an illusion of increased utilization.

Each change in billing methodology outlined was specifically requested by the VAMROC. As mentioned previously, toward the end of FY 99 VAMROC became concerned when total charges from TAMC far outpaced pro-forma projections. As a result, VAMROC requested TAMC again change its billing procedures and initiate billing for services by Current

Procedural Terminology (CPT) code. Billing by CPT code requires greater attention to data quality at the clinic level than is necessary for billing by individual MEPRS code, a quality level not currently present uniformly in all TAMC clinics. MEPRS, by design, does not provide for accurate cost accounting down to the clinical procedure level. However, MEPRS does provide for full cost attributed to a clinic. To appropriately bill by CPT code, TAMC must improve the quality of data through the Ambulatory Data System (ADS), the system used to track outpatient and ambulatory procedure visit CPT codes and Evaluation and Management (E&M) information.

In order to comply with VAMROC's desire to be billed by CPT code, TAMC developed a yearlong implementation plan designed to improve data quality at the procedure level. Additionally, an electronic billing system capable of billing by CPT code is undergoing fine-tuning in a concerted effort to improve billing capabilities.

An interim method for billing VAMROC for services is required for FY 00 while the system for CPT billing is under development. Until FY 00 rates are developed and agreed upon by both parties, TAMC will continue to bill the VA at FY 99 rates. Once fees are agreed on, then a retrospective adjustment will be made on all charges for FY 00. VAMROC desires billing based on what they call "a marginal MEPRS rate", which translates to relevant cost. The definition of relevant cost is the major issue at the heart of rate negotiations between TAMC and VAMROC.

Problem Statement

No thorough, systematic review of cost to provide outpatient clinical and ambulatory procedure services to the Hawaii Veterans Administration Medical and Regional Office Center has been completed by Tripler Army Medical Center in an effort to set fair and reasonable outpatient services and Ambulatory Procedure Visit (APV) charges for fiscal year 2000.

Study Objective

The purpose of this study is fourfold. First, to define and calculate a relevant MEPRS rate for outpatient services and APVs charged to the VA based on regulatory and corporate guidance. Second, to determine utilization and cost associated with FY99 VA outpatient workload and APVs at TAMC. Third, to select a basis for FY 00 billing based on regulatory and corporate guidance. And finally, to develop a sensitivity analysis of the selected charge bases for use as a decision support tool during FY 00 rate negotiations.

Literature Review

Congressional Guidance

Congress stated its intent to effect a closer relationship between DoD and VA medical facilities through the passage of The Veterans' Administration and Department of Defense Health Resources Sharing and Emergency Operations Act (1982). Congress indicated sharing resources between the DoD and VA would result in reduced cost to the government through minimizing duplication and under-use of available healthcare resources. Additionally, Congress recognized incentives to encourage sharing were inadequate. Moreover, the congress asserted that savings could be achieved without negatively effecting the primary beneficiaries of either system. The second intent of the law, which will not be discussed further, is to define sharing responsibilities on the part of the DoD and the VA in times of war.

In the Veterans' Administration and Department of Defense Health Resources Sharing and Emergency Operations Act, Congress specifically addressed resource sharing and reimbursement guidelines and established the Veterans' Administration/Department of Defense Health Care Resource Sharing Committee to track progress toward its stated goals. The most striking of the committee's responsibilities is to monitor the implementation of activities

designed to promote sharing of healthcare resources between the two agencies. The law requires sharing agreements be designed in a manner that will avoid adversely affecting the range of services, quality of care, or established priorities for care provided by either the DoD or the VA. It urges both agencies to identify changes in policy, procedures, and practices that would promote sharing of resources. The law addresses reimbursements by stating that a providing agency shall be reimbursed for the cost of the health care resources provided under the sharing agreement and that reimbursement rates shall be determined in accordance with the methodology outlined in the law. The methodology used must be based on the guidance agreed upon by the Chief Medical Director of the VA and the Assistant Secretary of Defense for Health Affairs (OSD-HA). Additionally, it must provide appropriate flexibility to the leadership at local facilities entering into sharing agreements, allowing them to take into account local conditions and the actual health care costs incurred by the providing facility. Finally, cited within the law is a reference to chapter 55 of United States Code, Title 10, which re-emphasizes resource sharing agreements must not adversely affect the range of services, quality of care, established priorities for care provided by either agency.

TRICARE Management Agency (TMA)

In September of 1999 the current executive director of the TMA, Dr. H. James T. Sears, clearly established MEPRS as the basis for all reimbursement rates (Policy for Implementation of Medical Expense and Performance Reporting System Data Validation and Reconciliation, 1999a):

Effective immediately, DOD MEPRS will be the official system for reporting cost, labor utilization, productivity, and workload-reporting system used to support MHS. MEPRS costs data will be the basis for all DOD Health Care reimbursement rates, TPC [third party collection] prices, marginal cost transfer prices, Interagency Reimbursements, etc.

In a follow-up memorandum, Dr. Sears reiterates the MEPRS is a congressionally mandated Tri-Service system and that data extracted from this system is considered during General Accounting Office audits for Medicare Subvention, Third Party Collections, and the DoD Military Health Care Benefits Liability Study. All rely on MEPRS/ Expense Accounting System (EAS) data (Sears, 1999b).

In response to General Accounting Office findings, the Tri-Service MEPRS Management Improvement Group was established in November of 1998. The Group developed data validation and reconciliation procedures that are to be performed monthly. Further, facilities were directed to establish Decision Support Teams to monitor MEPRS/EAS data quality assurance and reporting compliance. The Decision Support Team reports directly to the medical treatment facility's (MTF) Executive Committee.

Dr. Sears clearly defines MEPRS as the exclusive costing system for the MHS and delineates the responsibility of commanders at all levels to take ownership of the system. Finally, monthly validation and reconciliation requirements are reported directly to the MTF Executive Committee. These actions indicate heightened emphasis placed on MEPRS data quality.

U.S. Army Medical Command (MEDCOM) Guidance

Lieutenant General Blank, the current MEDCOM commander and Army Surgeon General, in a memorandum dated 6 November 1998 spoke of findings by the General Accounting Office (GAO) that declined to certify the DoD's baseline level of effort required for reimbursement of costs incurred under Medicare subvention. LTG Blank emphasized the importance of quality MEPRS data and provided an information paper to regional medical commanders outlining the MHS corporate philosophy regarding

MEPRS and a detailed outline of problems identified by the GAO along with measures that should be taken to correct them. A series of memoranda originating from MEDCOM followed shortly after LTG Blank's call for renewed emphasis on MEPRS data quality. MG Cuddy, then Deputy Surgeon General and Chief of Staff, MEDCOM, published the charter and guiding principles of the VA/DoD Healthcare Financial Management Committee (Cuddy, 1998a, 1998b).

Corrective measures to improve data quality were presented in an Information Paper titled "MEPRS Management Improvement Initiative (Ireland, 1998). The need for a radical increase in management support for MTF MEPRS activities was identified. Regional Medical Commanders were designated directly responsible for the timeliness, accuracy, and quality of the MEPRS in MTFs under their span of control. MEDCOM identified a list of ten items for immediate action to improve MEPRS data quality. The items centered on full staffing of each MTF MEPRS office, heightened attention to data entry and error reports associated with the Uniform Chart of Account Personnel Reporting System (UCAPERS) and the Standard Finance System (STANFINS). Additional items focused on specific causes identified with data inaccuracy, including a) timely completion of discharge summaries, b) charging discharge medications to the appropriate MEPRS account, and c) posting all ancillary workload to the appropriate MEPRS account. Finally, and perhaps the most important recommendation, is the directive to provide detailed cost data to MTF work center managers including, clinic chiefs, service chiefs, and ward or clinic managers, in an effort to effect an understanding of their work center's actual cost and performance data.

As a result of the renewed emphasis in FY 99 on MEPRS data quality, the system improved. However, a recent report by the GAO (HEHS-99-39, 1999) again faulted the MHS for MEPRS data quality deficiencies and for failing to dedicate sufficient administrative resources to ensure MEPRS data were accurate.

The MEDCOM provided guidance to TAMC in May of 1998 that outlined its position on VA/DoD health care resource sharing. The guidance reiterates that rates may be less than, but not exceed costs based on MEPRS data. Further, the providing facility must not incur any obligations that would represent a use of its own appropriations to supplement the appropriations of the VA (VHA Handbook, 1997).

DoD Financial Management Regulations

Yearly, the Department of Defense, in accordance with Section 1095 of Title 10, United States Code, publishes per visit reimbursement rates for selected outpatient and APV encounters defined by MEPRS code (DoD 7000.14, 1999). The fee schedule included in Appendix I of the document, titled “General Reimbursement Procedures and Supporting Documentation” (GPO, 1999), contains both interagency and third party rates. Outpatient reimbursement rates allow for a service fee and a professional charge. The service fee portion makes up 89 percent of the outpatient per visit charge, and the remaining 11 percent accounts for the professional charge. The purpose of DoD 7000.14 is to provide guidance on the amounts that shall be recouped when DoD components perform work or sell property within the DoD, to other U.S. Governmental agencies or to private parties. Additionally, guidance is provided regarding the appropriate method to set rates that should be billed as a result of providing authorized services and/or material to non-DoD federal agencies. This guidance is summarized in the following paragraphs.

Direct civilian personnel costs are specifically included when determining amounts to be reimbursed the DoD, and are to be charged at the actual hourly rates multiplied by the actual number of hours worked or assigned. Hourly rates are to include an added 18% fee that accounts for leave and holiday pay. Failing to set rates in this manner would amount to TAMC being penalized to the extent that its funds are used to finance the cost of performing the VAMROC's work, while VAMROC's appropriations are augmented to the extent that they are now available for use for other purposes.

Direct and indirect military labor are included in charges to a non-DoD organization based on the actual number of hours worked or assigned. Charges are assigned based on annual military composite, standard pay rates. Additionally, military fringe benefits are included and are billed as direct costs (DoD 7000.14, 1999).

The DoD financial management regulations provide added detail for costs that must be included when calculating reimbursement rates; however, the military pay component is the cost that VAMROC most strongly opposes to be included in the formula used to calculate relevant cost.

Veterans Health Administration Guidance

The Department of Veterans Affairs, in a publication named the "VHA [Veterans Health Administration] Handbook" (1660.1, 1997) outlines the process VA facilities must follow when providing services to the DoD. Logically, the VA might expect the DoD to at least meet this standard when it provides services to the VA. In the handbook, the VA mandates no single reimbursement methodology for services provided. After emphasizing that both the VA and the DoD should carefully estimate the cost of providing services under a partnership agreement, the VA addresses costs to be included when calculating charges in the following manner:

This cost must include the incremental cost of personnel, supplies, services, communications, and utilities that would have been incurred if the service had not been provided. Building depreciation, interest on net capital investment and VHA Headquarters overhead are to be excluded from the cost estimates...In no case should an estimated rate be below the incremental cost, resulting in a subsidy to the sharing partner.

This guidance is consistent with, yet without the level of detail provided in guidance by DoD, MEDCOM, and the VA/DoD Healthcare Financial Management Committee.

VA/DoD Healthcare Financial Management Committee Guidance

The Assistant Secretary of Defense for Health Affairs (ASD, HA) in December of 1997 chartered a tri-service VA/DoD Healthcare Financial Management Committee (HFMC). The primary focus of the committee was to institute a business oriented approach for exchange of services between the DoD and the VA. The committee functioned based on the premise that the seller would want to recover at least their marginal costs of providing services while the purchaser of services would expect to buy services for less than the market rate. In addition, facilities were urged to “share cost and market data” when needed to facilitate negotiations.

Along with the memorandum and committee charter sent by Dr. Martin, the acting ASD, HA at the time the HFMC was formed, were two attachments (Charter, 1997; Martin, 1998). The first attachment contained HFMC guiding principles, the second contained costing of services recommendations (VA/DoD Healthcare Financial Management Committee Guiding Principles, 1997; Healthcare Financial Management Committee VA/DoD Sharing Agreement Costing of Services Recommendations, 1997). The principles suggest that the DoD and the VA are partners in a long-term relationship. In the attachment addressing costing of services are

criteria for inclusion and exclusion for both direct and indirect costs. Direct and indirect costs to be included or excluded are listed in Table 1. Both direct and indirect labor costs are to be included in calculations to determine relevant cost.

Table 1. Direct and Indirect Cost Considerations for VA/DoD Sharing Agreements

| | |
|--|------------------------------|
| <u>Cost to be Included</u> | |
| <u>Direct</u> | <u>Indirect</u> |
| Labor | General Administrative Costs |
| Materials | Indirect Labor |
| Maintenance | Indirect materials |
| Equipment Depreciation* | Utilities |
| Depreciation** | |
| <u>Cost to be Excluded</u> | |
| General Management Support Cost | |
| Secretary's Office | |
| Other Headquarters' functions | |
| Other National Support Centers | |
| * Equipment used to produce the service | |
| ** Depreciation associated with wear and tear of building and equipment and not directly identified with a particular service or product | |

Note. Adapted from "Healthcare Financial Management Committee VA/DoD Sharing Agreement Costing of Services Recommendations", 1997.

Memorandum of Understanding Between the VA and DoD: VA/DoD Health Care Resource Sharing Guidelines

The VA/DoD Health Care Resource Sharing Guidelines defines the term "reimbursement rate" as the negotiated price cited in a sharing agreement for specifically defined health care resources. These rates are to take into account local conditions and the actual cost of providing care. Examples of suggested costs to be included in relevant cost include, cost associated with communications, utilities, services, supplies, salaries, depreciation and related expenses

connected with providing healthcare resources. Recognize that depreciation is not explicitly defined in this memorandum and is not to be confused with the definitions presented in Table 1., which were published by the VA/DoD HFMC. Cost elements excluded are building depreciation, interest net capital investment and overhead expenses incurred at levels above the medical facility, e.g. MEDCOM. While equipment depreciation is a component of actual cost to be considered in determining rates, this guidance strongly encourages its exclusion. Further, the memorandum of understanding states this methodology will be used for billing purposes by the providing organization (VA/DoD Health Care Resource Sharing Guidelines, 1983). Guidance by the HFMC outlined in the previous section is more up-to-date and provides a further detail to the definition of depreciation, as it further delineates which costs should and should not be included in rate agreements. Still, with the less specific definitions provided by the MOA published in 1983, it is clear that employee salaries are to be included in rate calculations.

Methods

Validity

Validity is the extent to which a study actually measures what one wishes to measure (Cooper & Schindler, 1998). Face validity and credibility of the spreadsheet analysis was tested through involvement of data analysts assigned to the Resource Management Division of TAMC. One must take care to ensure validity of data elements in any study which utilizes data extracted from multiple systems. As data were extracted, preliminary analysis was completed. Preliminary analyses were presented to members of the Resource Management Division, to include those that specialize in billing and VA utilization. Any errors in methodology were corrected at that time. Utilization data drawn from the Worldwide Workload Report were compared to billing data provided by the TAMC billing office. Cost data were assumed valid, as

rates are published annually by the DoD and are the only valid source for interagency and third party reimbursement rates.

Reliability

Reliability is concerned with the accuracy and precision of a measure (Cooper & Schindler, 1998). Data quality and data integrity was assessed as data were extracted from each information system. Initial concerns regarding the reliability of MEPRS data were allayed by initiatives over the past two years to increase the quality of data in the MEPRS system.

Spreadsheet Software

Microsoft® Excel was used to make data calculations and to present final results in an aesthetically pleasing format. Spreadsheet software is widely used in the business community for data manipulation, calculation and presentation. Previous studies suggest Excel is a valid and reliable business tool (Brown, 1999; Liu, Shurtleff, Ellenbogen, Loeser, & Kropp, 1999; Walter, 1999). Excel® greatly simplified the repetitive calculations associated with rate analysis.

Ethical Considerations

The researcher had access to patient level data throughout the data collection process. Care was taken to protect patient privacy. Data extracted from CHCS was done so without patient identifier. No patient information was included on results presented in Excel® spreadsheets.

Cost-Based Charges

Charges can be set using a cost-based system. Such a system uses cost as a starting point for setting charges. Two components must be determined in this type of methodology. First, one must determine the unit of service to which payments are attached; and second, one must define reasonable and allowable costs (Zellman, McCue, & Millikan, 1998). In this study unit of

service was defined as a VA beneficiary patient encounter as identified by level four MEPRS code. MEPRS coding is explained in further detail in the “Medical Expense and Procedure Reporting System Overview” section. VA workload was tagged with a “K61” designator that makes VA workload distinguishable from other patient types. Reasonable and allowable cost was established based on guidance identified through literature review and is discussed more fully in the “Calculating MEPRS Cost” section.

Determination of FY 99 Utilization and Charges to the VA

Total charges associated with VA encounters for FY 99 were calculated by multiplying the VA utilization rate by a modified FY 99 MEPRS rate for each work center (the term “work center” is synonymous with the four character MEPRS code) (Hazzard, 1999). Utilization data for this part of the analysis were extracted from the Worldwide Workload Report (WWR), which is a tabulation of data entered into the Composite Health Care System (CHCS). The modified FY 99 MEPRS rate was based on FY 98 data. The methodology for determining the modified FY 99 MEPRS rate was not documented by resource management and the analyst that developed the FY 99 rates is no longer employed by TAMC. The method used to calculate MEPRS unit cost is presented in the “Calculating MEPRS Unit Cost” section.

Calculation of Total Charges to the VA Using Interagency & Third Party Rates

Charges were calculated using published FY 00 interagency and third party rates (DoD 7000.14-R, 1999). Published rates were then multiplied by VA utilization to produce a projected cost to the VA should TAMC select either of these fee schedules as a basis for billing.

Calculating MEPRS Unit Cost

Medical Expense and Procedure Reporting System Overview

MEPRS tracks cost by assigning each cost center a four digit alphanumeric code. The MEPRS codes are used to ensure that expense and operating performance data are consistently reported within the MHS. Using the code BAA5 as an example, the first character of the code designates one of seven functional categories. The first character “B” in this example indicates this code is for an outpatient procedure. The second character defines a general workload area, or summary account. In this case, the second character “A” indicates a charge to a medical care account. The third level designates work center, or sub-account. In this case, the third character “A” indicates this charge will be to the Internal Medicine service. Finally, the fourth character is site specific, defined by the division as needed. In this example, “5 “ indicates an ambulatory surgery procedure in the Internal Medicine Clinic. When data are reported using one, two, or three digits, all costs associated with that level are included; however, the fourth level provides for the greatest level of detail at the service level (Patient Administration Systems and Biostatistics Activity, 1998). The four-digit MEPRS code was used in this study since it provides the greatest level of detail.

MEPRS Data Extraction

To calculate full MEPRS unit cost for outpatient services and APVs for each MEPRS code, data were extracted from the MEPRS system for FY 99 in its entirety. There were several reasons this time period was chosen. First, data prior to FY 99 are suspect due to a lack of emphasis on MEPRS data quality prior to February of 1998 (Martin, 1998). Second, it is the

opinion of the chief of the Resource Management Division that FY 98 data are inaccurate due to the lack of emphasis mentioned earlier. Further, a procedural change to the Integrated Financial Control System (IFICS) resulted in systemic problems in the MEPRS. The problem was traced to a change in the data transfer process from the IFICS that feeds data elements into the MEPRS. Moreover, including a full year of MEPRS data is prudent since some costs are charged in their entirety early in the year. This practice will artificially inflate unit cost if full years of data are not included.

Utilization Data Extraction

Clinic and APV utilization data were extracted through the Composite Health Care System through the Worldwide Workload Report. A definition of utilization is in order. For the purposes of this study, the term utilization was considered synonymous with patient encounter. Patient encounter was defined as one unique face-to-face solo interaction with a healthcare provider. Interaction included any one, or combination, of the following: examination, diagnosis, counseling or treatment. A patient may have had a single encounter or multiple encounters on any given day. A patient referred to multiple health care providers on the same day may appropriately have had encounters annotated under different MEPRS codes. Alternately, multiple provider encounters associated with an APV were routinely counted as one encounter, since the services were bundled for reimbursement (PASBA, 1998; Briggs, Rohrer, Ludke, Hilsenrath & Phillips, 1995). An additional limitation of Worldwide Workload Report data was that utilization numbers include all patients coded K-61, regardless of their eligibility or authorized status for the specific type of care provided for the reported visit. For comparative purposes, the Tripler billing office provided VA utilization data for visits that generated a bill during FY 99. The comparison was to assess the impact better VA workload identification might

have on TAMC's cash collections, which were designed to cover the relevant cost of providing care to VA beneficiaries. VA eligibility is complex. Some patients may have VA health care benefits restricted to specific disease processes or morbidities incident to service, while others are eligible for global health care services. While the WWR as a data source is not perfect, it was the best source available.

Unit cost was determined by dividing total cost by total utilization, see Table 2. Total expenses were equated to full MEPRS cost. Total patient encounters were equated to the number of unique patient encounters for each MEPRS cost center. Average cost was calculated by dividing total expenses by total utilization for each MEPRS cost center.

Table 2. Calculation of Patient Encounter Charge by Clinic - Internal Medicine Clinic

| Total Expenses | / | Total Patient Encounters | = | Average Cost Per Clinic Visit |
|-----------------|---|--------------------------|---|-------------------------------|
| \$242, 123, 464 | | 1,432,566 | | \$169 |

Note. From "DoD Medical and Dental Rates", by B. Hazzard, 1999, 1999 UBO Conference, Crystal City, VA; August 2-6, 1999; p. 5.

Alternately, a discounted MEPRS cost, also referred to as relevant cost, was calculated using only those Standard Expense Element (SEEC) codes that met the definition of relevant cost as defined by the HFMC. A panel of subject matter experts was convened to determine which SEEC codes to include as relevant costs, based on the HFMC definition (Appendix A). Adjusted MEPRS cost was calculated by adding the SEEC codes determined relevant by the panel of experts. Relevant rates were adjusted for cost centers with suspect data by excluding the affected cost centers and calculating a mean cost among unaffected centers. The mean cost then replaced

the suspect data. Similarly, cost centers expected to realize significant cost increases were adjusted by removing any outliers and calculating the average cost among APV cost centers. The average cost was then substituted in cost centers identified as likely to experience above average medical inflation due to enhanced technology.

Full FY 99 MEPRS rate was compared to the FY 99 adjusted MEPRS rate, the rates paid to the VA for services in FY 99, and the Interagency and Third Party rates.

Sensitivity Analysis

For comparative purposes, a spreadsheet was developed to present the data as a sensitivity analysis. Costs were compared billed at the FY 99 and the proposed FY 00 rates, and the difference between the two. Further, charges were displayed at 100, 85, 80 and 65 percent of the Interagency rate.

Assumptions/Clarification

The study was based on the following assumptions:

- TAMC desired to cover its cost of providing services without making a profit.
- MEPRS data were reliable and valid. Increased scrutiny of MEPRS data, as presented in detail previously, has increased the quality of data in the system.
- Using adjustments to adjust for suspect data did not bias the results of the study.

Results

A panel of subject matter experts including the Chief-of-Staff and the Chiefs of the Resource Management Division, Patient Administration Division, Uniform Business Office, the VA Program Analyst, an administrative resident working toward a Master degree in health care administration, and the researcher, was convened to determine which SEEC codes to include as relevant costs.

A full listing of SEEC codes, minus ancillary and support codes, is included as Appendix B. Table 3 lists the SEEC codes identified as relevant cost components by the subject matter experts. SEEC component costs that are currently billed under a separate agreement with the VA were excluded. Appendix C is a spreadsheet displaying calculated full and relevant MEPRS cost. Relevant MEPRS cost was calculated by adding the SEEC codes noted in Table 3. Relevant MEPRS cost was selected as a basis for FY 00 billing based on expert panel recommendation and based on the requirement that charges be derived from MEPRS cost, as identified through literature review.

Table 4 illustrates the results of APV rate analysis. APV rates were set at relevant MEPRS cost for eight of the fifteen APV cost centers. At the direction of the Chief, RMD, relevant costs were set for the remaining cost centers in the following manner. First, cardiology and obstetrics relevant MEPRS totals were identified as statistical outliers and removed from the list of fifteen cost centers. An average cost was calculated by summing the remaining cost centers and dividing the total by thirteen. The resultant cost was inserted into the cost centers identified as technologically intensive. Next, four cost centers with questionable data quality were identified. The IA rate was substituted for the relevant MEPRS rate and the arithmetic mean calculated and the results replaced the relevant MEPRS value for the four cost centers.

Table 3. Relevant Standard Expense Element Code Listing

| <u>SEEC CODE*</u> | <u>DESCRIPTION</u> | <u>PERCENTAGE**</u> |
|------------------------------|---------------------------------|----------------------------|
| 11.10 | CIVILIAN PERSONNEL COMPENSATION | 32% |
| 11.71 | RESERVE PERSONNEL COMPENSATION | 0% |
| 11.72 | MILITARY PERSONNEL COMPENSATION | 37% |
| 23.05 | RENTAL PAYMENTS | 4% |
| 23.10 | COMMUNICATION | 0% |
| 25.20 | LAUNDRY AND DRY CLEANING | 8% |
| 25.40 | RECURRING REAL PROPERTY MAINT | 28% |
| 25.45 | DESIGN ARCHTCTRL & ENG SERVICES | 0% |
| 25.50 | CONTRACT HEALTH CARE | 26% |
| 25.62 | CIVILIAN CONTRACT LABOR | 2% |
| 25.65 | OTHER MISC CONTRACTS | 8% |
| 26.15 | MEDICAL/DENTAL SUPPLIES | 4% |
| 26.20 | OTHER SUPPLIES | 5% |
| 31.15 | MEDICAL/DENTAL EQUIP | 0% |
| 31.20 | OTHER EQUIPMENT | 1% |
| 31.30 | DEPRECIATION (EQUIP) | 3% |
| | | <hr/> 100% |

* SEEC = Standard Expense Element Code

** Percentage column reflects the total expenses reported in the individual SEEC divided by the relevant MEPERS grand total expenses. In categories where percentage is reported as 0%, expense was negligible when compared to the total expense.

Table 4. Calculation of Relevant Rates

| MEPRS CODE | CLINIC | TOTAL TAMC VA WORK-- LOAD | RELEVANT MEPRS COST | FY 00 INTER- AGENCY RATE | STEP 1A CALCULATE TECH. ADJUST. | STEP 1B TECHNOLOGY ADJUSTMENT | STEP 2 REPLACE REMAINING OUTLIERS WITH IA RATE | STEP 3 DATA QUALITY ADJUST- MENT |
|---------------|------------------------------------|---------------------------------------|---------------------------|-----------------------------------|---------------------------------------|-------------------------------------|---|--|
| BAC5 | CARDIOLOGY | 145 | \$3,245 | \$797 | | \$3,245 | \$797 | \$1,559 |
| BAG5 | GASTROENTEROLOGY | 1148 | \$1,657 | \$797 | \$1,657 | \$1,657 | \$797 | \$1,559 |
| BBA5 | GENERAL SURGERY | 800 | \$1,759 | \$1,740 | \$1,759 | \$1,759 | \$1,759 | \$1,759 |
| BBB5 | THORACIC SURGERY | 9 | \$2,089 | \$1,740 | \$2,089 | \$1,810 | \$1,810 | \$1,810 |
| BBC5 | NEUROSURGERY | 18 | \$2,226 | \$1,740 | \$2,226 | \$1,810 | \$1,810 | \$1,810 |
| BBD5 | OPHTHALMOLOGY | 263 | \$1,538 | \$1,740 | \$1,538 | \$1,810 | \$1,810 | \$1,810 |
| BBF5 | OTORHINOLARYN | 1137 | \$1,767 | \$1,740 | \$1,767 | \$1,767 | \$1,767 | \$1,767 |
| BBG5 | PLASTIC SURGERY | 297 | \$1,866 | \$1,740 | \$1,866 | \$1,866 | \$1,866 | \$1,866 |
| BBI5 | UROLOGY | 291 | \$1,903 | \$1,740 | \$1,903 | \$1,903 | \$1,903 | \$1,903 |
| BBK5 | PERIPHERAL VAS SURG | 34 | \$1,888 | \$1,740 | \$1,888 | \$1,888 | \$1,888 | \$1,888 |
| BBZ5 | ORAL SURGERY | 178 | \$1,623 | \$1,740 | \$1,623 | \$1,623 | \$1,623 | \$1,623 |
| BCB5 | GYNECOLOGY | 516 | \$1,359 | \$797 | \$1,359 | \$1,359 | \$797 | \$1,559 |
| BCC5 | OBSTETRICS | 11 | \$901 | \$979 | | \$901 | \$901 | \$1,559 |
| BEA5 | ORTHOPEDIC | 914 | \$1,829 | \$2,192 | \$1,829 | \$1,829 | \$1,829 | \$1,829 |
| BEF5 | PODIATRY | 38 | \$2,027 | \$2,192 | \$2,027 | \$2,027 | \$2,027 | \$2,027 |
| | | | | | \$1,810 | | \$1,559 | |
| | Statistical Outliers excluded | | | | | | | |
| | Adjusted for data quality concerns | | | | | | | |
| | Relevant MEPRS rate | | | | | | | |
| | Adjusted for high technology | | | | | | | |

Appendix D contains total visits to the VA by MEPRS cost center for FY 99, along with the percent utilization associated with each cost center compared to total VA utilization. FY 99 and FY 00 rates are displayed followed by total charges associated with FY 99 utilization at the respective rates. To serve as a basis for comparison, the relevant MEPRS rate is presented as a percent of the IA rate. A sensitivity analysis of proposed FY 00 rates are displayed compared to 100, 85, 80, and 65 percent of the interagency rate identifying how steeply, if at all, a cost center's proposed FY 00 rate was discounted when compared to the IA rate. To further illustrate this point, Table 5 displays a grouping of cost centers according to the degree of discount noted in each cost center when proposed FY 00 rates were compared to the IA rate. For proposed FY 00 rates, thirty eight percent, or 18 cost centers, had rates set below 80% of the IA rate. Continuing with Appendix D, and based on the proposed FY 00 charges, all but ten of TAMC's 88 outpatient cost centers had fees set below the IA rate. Note that previously only cost centers with VA utilization were included, whereas this portion of the analysis contains all TAMC outpatient cost centers. Proposed FY 00 rates included all cost centers while FY 99 rates did not. Of thirteen cost centers considered high volume (greater than 500 visits annually) nine are priced equal to or less than 65% of the IA rate.

Table 5. FY 00 Charges as a Percentage of Interagency Rates

| FY 00 Rates as Percentage of IA Rate | Number of Cost Centers | Percent of Total |
|---|---|---------------------------------|
| 100% | 9 | 19% |
| 95% | 4 | 8% |
| 90% | 2 | 4% |
| 85% | 4 | 8% |
| 80% | 10 | 21% |
| 65% | 8 | 17% |
| <65% | 11 | 23% |
| Totals | 48 | 100% |

Average relevant MEPRS cost is 77% of the interagency rate, as noted in Appendix D. Charges to the VA based on 80% of IA rate amounts to an \$282,495 increase in charges; alternately, billing the VA at 65% of IA rate results in a \$297,591 net loss to TAMC.

Appendix E displays aggregate cost associated with proposed FY 00 rates, along with line item cost. These data included all VA coded encounters. The difference in proposed FY 00 over FY 99 rates when calculated according the methodology in Appendix E is a reduction of \$75,125, which amounts to a 2% reduction.

Finally, Appendix F contains a spreadsheet created to display the product of FY 99 APV utilization and proposed FY 00 rates, illustrating a \$14,730 increase in revenue related to ambulatory procedure workload.

Discussion

Review of Results

The billing methodology developed for FY 00 is beneficial to both TAMC and the VA, as it is tied firmly to actual cost of providing services at TAMC. Alternately, the average cost associated with ambulatory procedure visits was used when costing data were suspect. The IA rate was a final screening tool, used as a “reality check” to ensure rates were not set appreciably higher than the average cost to provide a service among all DoD facilities.

Comparison of relevant MEPRS cost to interagency and third party rates provides an insightful decision matrix for TAMC when negotiating rates with it's VA partner. Recognize that either fee schedule can be discounted in various manners during rate negotiations. One option is to apply a uniform discount, while a second option is to discount selected services. A clear understanding of the cost associated with providing care at TAMC, and the cost incurred by

the VA by purchasing health care services in the civilian community is essential for appropriate and fair rate development.

While this analysis suggests TAMC will receive less funds from the VA for services billed at the proposed FY 00 rates, that may not necessarily be the case. The analysis is based on FY 99 utilization and billing agreements that did not have negotiated rates for all procedures. No payment was made to TAMC for services rendered for procedures that had no negotiated rates. Additionally, identification of patients eligible for VA funded care is improving. Finally, the proposed rate schedule for FY 00 is much more comprehensive, making it more difficult for services to be rendered without a mechanism in place to bill the VA.

Even though the process used to adjust APC costs outlined in Table 4 resulted in a reduction of about \$73,000 in the estimated total cost of providing services to the VA based upon the relevant MEPRS costs, it should be noted that even the MEPRS costs are estimates of the true cost of providing these services. This process was designed to provide a "better" estimate of the true costs, so it should not be seen as being biased in favor of either TAMC or VAMROC.

Prior to this study, TAMC had no historic record of how charges for services provided to the VA were calculated. Rates could not be retrospectively reviewed and adjusted based on recognized changes to the health care environment. As changes in utilization occurred in various cost centers, questions were often asked regarding how rates were determined for specific clinics. Methodology documentation was non-existent and these questions went unanswered. This document will resolve questions of methodology related to FY 00 rates.

Another lesson learned is the importance of paying particular attention to utilization data sources when performing costing analyses. Initially, utilization data were used without an understanding that the data source was reporting VA coded charts, rather than billed encounters.

Using a data source that reports potentially billed encounters might display a very different perspective on the potential cost associated with changing a rate schedule or authorization mechanism than would data drawn from a source reporting all VA coded encounters. The difference between workload coded VA and billed to the VA begs for an improved method to identify and bill for services.

Records coded K-61 in CHCS, indicating a VA beneficiary record, are not 100 percent accurate. The field where beneficiary category is documented in CHCS does not allow for annotation of more than one category. In reality, a patient may concurrently qualify for care at TAMC as a retiree, VA, family member, or civilian employee. This issue was referred by TAMC's Patient Administration Office to the U.S. Army Medical Command for consideration.

A weakness identified during data analysis was that TAMC's billing mechanism failed to concurrently track utilization of services provided to the VA. Moreover, it failed to track charges billed to the VA on a systematic basis. As a result of this finding, TAMC billing staff now provides the Chief of Staff with a monthly report of charges billed to the VA along with a list of cases pending arbitration.

Table 4 (page 22) displays relevant expenses included to calculate relevant MEPRS rates. Of 48 TAMC MEPRS cost centers with documented VA patient visits, exactly half will realize an increase over FY 99 charges while the remaining cost centers will see charges decrease. When total FY 99 VA workload is taken into account, limited to workload billed, the full impact to the VA associated with implementing the proposed FY 00 rates is a decrease of \$1,841 (Appendix D.) Billing the VA at full IA rate, as is the standard billing method for all other governmental agencies that obtain health care services at TAMC, would result in an added \$564,174 charge to the VA above the proposed FY 00 rates.

Table 6 contains an extract of the following analysis. When one compares total reimbursement billed in FY 99 in Appendix D to the total reimbursement for FY 99 for all VA coded encounters, both billed and unbilled, in Appendix E, the potential lost revenue associated with inadequate identification of VA beneficiaries may be as high as \$1,299,072. Unbilled revenue decreases to \$1,220,992 when proposed FY 00 rates are applied. It is important to note that not all VA coded charts are billable to the VA, as a chart coded VA may include care not covered by VA disability benefits. Therefore, the actual recoverable unbilled revenue falls somewhere between the total billed and total coded values. If we conservatively assume TAMC could recover 25% of the unbilled identified in this study, the total would amount to \$305,230. Using a slightly more optimistic estimate of 50%, the total would double to \$610,460.

Table 6. Difference between Coded and Billed Revenue for FY 99 & FY 00

| | ENCOUNTERS | | DELTA |
|------------------------|---------------------|----------------------|--------------|
| | <u>CODED</u> | <u>BILLED</u> | |
| FY 99 CHARGES | \$4,041,415 | \$2,742,343 | \$1,299,072 |
| PROPOSED FY 00 CHARGES | \$3,966,290 | \$2,745,298 | \$1,220,992 |

Challenges Encountered

Review of MEPRS data produced some concern regarding data quality in several cost centers. Centers with multiple MEPRS codes displayed an inattention to posting costs associated with a specific MEPRS code to the appropriate code within the multi-service clinic. An example is the Diabetic and Endocrinology clinic. Full MEPRS cost for a Diabetic Clinic visit amounts to \$7.43, while the Endocrinology Clinic full MEPRS cost amounts to \$214.08. It is highly probable that costs associated with the Diabetic clinic were inappropriately charged to the Endocrinology account, thus falsely lowering the cost associated with a Diabetic Clinic visit

Table 7. Example of Inaccurate Workload Reporting.

| MEPRS CODE | CLINIC | FY 99 VA RATE | FY99 VA UTILIZATION | REIMBURSEMENT AT 99 RATE | ADJUSTED MEPRS COST | FY99 UTILIZATION TIMES ADJUSTED MEPRS COST | DELTA |
|---------------|-------------------------|------------------|---------------------------|--------------------------------|---------------------------|---|----------|
| | | | | | | | |
| BAEA | DIABETIC CLINIC | \$206 | 9 | \$1,854 | \$7.43 | \$63 | -\$1,791 |
| BAFA | ENDOCRINOLOGY/ METAB | \$206 | 54 | \$11,124 | \$214.08 | \$10,422 | -\$702 |

while raising the cost associated with an Endocrinology visit. Table 7 includes a more detailed representation of the single line entry in Appendix C representing the diabetic and endocrinology clinic. This is an example of workload likely posted to the wrong MEPRS cost center in a multifunctional clinic comprised of several cost centers. When inaccuracies in data quality such as this arose, costs among centers were averaged to determine a common rate for services among co-located clinics.

During the review of VA service utilization, services not previously billed or billed at a generic clinic visit rate, were identified. VA patients routinely obtain care at the Skilled Nursing Care Clinic, Pain Management Clinic, and Psychology and Social Services in the Emergency Department. Separate billing for Brace Shop and Inpatient Rehabilitation services is not currently performed, while these services typically are not bundled into the inpatient DRG rate. The proposed FY 00 rate schedule remedies the problems outlined above by clearly establishing rates for the aforementioned services, with the exception of goods and services provided by the Brace Shop, as the VA position is that these services are included in the inpatient DRG rate. However, most prosthetic and orthotic shops are not co-located with tertiary care centers and are reimbursed separately. The positive financial impact of identifying previously unbilled encounters may be attenuated if VA coded records are not appropriately identified and billed.

Tracking of utilization and authorization procedures for VA workload is problematic. TAMC has become much better at identifying VA eligible patients over the past two years, leading to the appearance of increased utilization; this trend is expected to continue. While studying utilization, a flawed authorization process for VA services at TAMC was identified. No 24-hour authorization mechanism was in place, resulting in VA denial of claims for services

rendered to VA patients after normal duty hours. A policy requiring availability of an authorizing agent, 24-hours a day, seven days a week, is currently being staffed through local VA and TAMC command channels.

Opportunity for Future Study

Rates developed carefully in accordance with VA/DoD corporate guidance more accurately reflect the true cost of providing services to the VA. As a result, TAMC will recoup the resources associated with treating VA patients, while avoiding overcharges. A solid evaluation of MEPRS cost by individual work-center can function as a basis for comparison when TAMC begins billing the VA by CPT code. Further analysis is needed to determine which rate base will be used to bill by CPT code. Currently, the Medicare Resource Based Relative Value Scale (RBRVS) is considered a good possibility for outpatient care visits, as it is a proven and widely used billing mechanism. The soon to be published Ambulatory Payment Classification (APC) rates may be a good charge base for inpatient ambulatory procedures and related ancillary services, as they will be the new Health Care Financing Administration (HCFA) standard for MEDICARE inpatient ambulatory procedure billing. Decisions to discount specific rates can be made based on MEPRS analysis similar to that presented in this study.

TAMC should purchase commercially available computer software containing a comparative analysis of geographically specific healthcare charges. This type of software often includes a Resource Based Relative Value Unit schedule of charges and a fee analyzer which provides outpatient rates by CPT code, displayed at the 50th, 75th and 95th percentile of local charges. This type of information would be invaluable to TAMC during rate negotiations with the VA. Additionally, the RBRVS is used widely in the civilian sector to determine Medicare outpatient service charges by assigning a relative-weighted value to physician work required for

a procedure, practice expense by specialty type, and malpractice expense. Additionally, a weighting factor is applied to adjust for geographical cost differences (Gapenski, 1996).

A study that will painstakingly explore the relationship among the RBRV and APC reimbursement systems and the implications for future cash collections at TAMC should be conducted. Medicare beneficiaries may soon be granted access by congress to obtain medical care at all DoD health care facilities. Familiarity with the RBRVS system may enhance initial Medicare compliance efforts.

An analysis designed to assess utilization and cost of goods and services provided by the Brace Shop to VA beneficiaries is needed to identify the “best business practice” for providing services to VA beneficiaries. The analysis should include a review of utilization, along with authorization procedures.

As a final point, further study is needed to determine the cost effectiveness of having an TAMC employee dedicated specifically to identifying VA coded charts that are billable to the VA, as much workload remains unbilled due to lack of appropriate identification of VA eligibility status. Should the analysis warrant hiring additional personnel to identify VA eligibility status, the cost should be born by the VA, as it is a cost directly associated with VA workload.

Conclusion / Recommendations

A thorough, systematic review of cost to provide outpatient clinical and ambulatory procedure services to the Hawaii Veterans Administration Medical and Regional Office Center has been completed by the researcher in an effort to set fair and reasonable outpatient services and APV charges for fiscal year 2000. Rates developed in accordance with guidance from

Congress, TMA, the VA, at various levels of each organization, is beneficial to both sharing partners.

Fiscal year 2000 rates should be set at the relevant MEPRS rate for each cost center, or a reasonable approximation of this rate. Exceptions to this rule should be made for cost centers with data that suggest inappropriate workload reporting, such as is the case in co-located multifunctional clinics. An alternative to the relevant MEPRS rate is 80% of the IA rate, as they are approximately equivalent.

Continued emphasis must be placed on accurate input of MEPRS data. Costs must be posted to the appropriate cost centers in multi-function clinics. High quality data will obviate the need for deviations from a standard rate setting methodology.

A number of areas should be improved to maximize operational efficiency. Systematic tracking and routine reporting of VA utilization, billing, and claims denial data to senior level management should be required. Additionally, efforts to secure a point of contact at the VA with 24-hour availability to make authorization decisions should be emphasized.

TAMC and the VA are on track in their plans for conversion to billing by CPT code. Feasibility of billing for services using the HCFA's APC billing schedule, due to be introduced in July of 2000, should be explored. Similar to DRGs, this system will bundle inpatient ambulatory services for reimbursement, thus providing an additional billing option for consideration during future rate negotiations.

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